SITE OE-62 LAGUNA SECA OPEN SPACE

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ATTACHMENT

62-A Evaluation of Previous Work Checklists

SITE OE-62 - LAGUNA SECA OPEN SPACE

A summary report for Site OE-62 is provided below. This report consists of two parts. The first part, contained in Sections 3.62.1 through 3.62.5, includes a presentation and assessment of archival data. Specific elements include a review of site history and development, evaluation of potential ordnance at the site, a summary of previous ordnance and explosives (OE) investigations, and a conceptual site model. The above-mentioned information was used to support the second part of this report, which is the Site Evaluation (Section 3.62.6). The Site Evaluation was conducted in accordance with the procedures described in the *Final Plan for Evaluation of Previous Work (Harding Lawson Associates [HLA], 2000*) and may restate some information presented previously. The Site Evaluation discusses the evaluation of the literature review process (Section 3.62.6.1) and evaluation of the reconnaissance process(es) (Section 3.62.6.2). These discussions are based upon information from standardized literature review and reconnaissance review checklists (Attachment 62-A). Section 3.62.7 provides conclusions and recommendations for the site. References are provided in Section 3.62.8.

3.62 Site OE-62 (Laguna Seca Open Space)

The following presents a summary of the site history and development that is based on archival research and review of historical training maps and aerial photographs. Plates have been prepared that present pertinent features digitized from historical training maps and scanned aerial photographs reviewed by Harding ESE. It should be noted that minor discrepancies between source maps, combined with the natural degradation of older source maps and photographs, has resulted in misalignment of some map features. In addition, camera angle and lens distortion introduced into older aerial photographs, combined with changes in vegetation and site features over time may contribute to the misalignment of some map features with respect to the aerial photographs.

3.62.1 Site Description

Site OE-62 is approximately 247 acres and is at the southern end Fort Ord, adjacent to the Laguna Seca Raceway (Plate 62-1). This area was identified during an interview with the former Fort Ord Fire Chief, Fred Stephani, conducted during the Preliminary Assessment/Site Investigation (PA/SI) phase of the Fort Ord Archive Search Report (ASR; *U.S. Army Engineer Division, Huntsville [USAEDH], 1997*). The site boundaries correspond with the approximate boundaries of reuse parcel L20.6 the Laguna Seca Park.

3.62.2 Site History and Development

1940s Era

This site lies within a tract of land purchased from private landowners by the government after July 1940 (*Arthur D. Little, Inc. [ADL, 1994*). Review of 1940s era documentation including historical maps and aerial photographs indicates no specific training sites were in use in the area. Sites OE-62 and OE-63 are within Area T identified during an interview with Mr. Stephani (Plate OE-62-1). He stated that Area T was reportedly used from 1948 to 1950 and included the use of small arms and flares (*USAEDH, 1997*). Soldiers would use the weapons on the west end of the site and in the canyon on the east side. The results of the review of 1940s era documentation are as follows:

• No specific training areas are shown on the 1945 and 1946 training maps (*U.S. Army [Army], 1945a and 1946*).

• No specific training areas are apparent on the 1945 aerial photographs (Army, 1945b).

1950s Era

Review of 1950s era documentation identified the presence of several training areas west of the site and within the site boundaries.

- The 1954 and 1956 training maps show "Laguna Seca Training Area 1, 2, 3" and the "Laguna Seca Ranger Station" just west of the Site OE-62 (Laguna Seca Open Space) boundary (*Army*, 1954 and 1956) (Plate 62-2). Site OE-62 is within the larger "Division Artillery" training area.
- The 1956 training map shows a "RSOP (Reconnaissance, selection, and occupation of position)" north of the site and a "Survey Training Area" within site boundaries (*Army*, 1956).
- The 1958 Ranges and Training Facilities map shows a "CTM Bivouac Area" within the Site OE-62 boundary and a Survey Training Area just north of the site (*U.S. Army Corps of Engineers [USACE]*, 1958).
- The 1957 and 1958 training maps show the site area within the larger "1st Brigade's" training area (*Army*, 1957 and 1958).

1960s Era

Review of 1960s training maps shows several facilities within and just outside Site OE-62 boundaries. The following identifies the results of the historical review:

- The "CTM Bivouac" area is within the Site OE-62 boundary (*USACE*, 1961). The "CTM Objective" is located to the northeast and outside of the Site OE-62 boundary.
- The 1964 map shows "RWO 4" and "RWO3 PLE" within the Site OE-62 boundary. The site is within a larger training area indicated by a large "S (1st Brigade)" on training maps from 1964 through 1972 (*Army*, 1964 and USACE, 1972). The mission of the 1st Brigade was to conduct basic combat support training (*Army*, 1968).
- An April 13, 1969, aerial photograph shows no structures or visible evidence of a defined training area.

1970s Era

Review of historical and training maps shows the site as an Engineering Training Area. A Noise Buffer Zone was established on the southeast side of Fort Ord by January 1978. The southern half of Site OE-62 is included in the buffer zone.

- Site OE-62 is within training area "R 1 (Engineer Training Area)" (Army, 1976).
- A Noise Buffer Zone (No Firing of Blank Ammo: Pyrotechnics Explosives or Simulators) was established on the southeast side of Fort Ord by January 1978 (*Army*, 1978). The southern half of Site OE-62 is included in the buffer zone.
- Aerial photographs from December 17, 1975; June 16, 1978; and 1999 (Plate 62-2) show no structures or visible evidence of a defined training area.

Future Land Use

Site OE-62 lies within undeveloped open space property. The property is to be transferred to Monterey County (*USACE*, 1997).

3.62.3 Potential Ordnance Based on Historical Use of the Area

No evidence has been found to suggest that this site was used for anything other than a troop training and maneuver area. Information gathered during site investigation activities indicates that blank small arms ammunition and pyrotechnics were used at this site.

3.62.4 History of OE Investigations

The following describes the OE investigations that have been conducted at Site OE-62.

1997 Revised Archives Search Report (ASR)

The purpose of the archives search conducted at Fort Ord was to gather and review historical information to determine the types of munitions used at the site, identify possible disposal areas, identify unknown training areas and recommend follow-up actions. The archives search was conducted in accordance with U.S. Army Corps of Engineers guidance (*USAESCH*, 1995). The archives search included a Preliminary Assessment/Site Investigation (PA/SI) consisting of interviews with individuals familiar with the sites, visits to previously established sites, reconnaissance of newly identified training areas, and the review of data collected during sampling or removal actions. Requirements for preparation of an ASR are described in Section 2.0 of this report.

Site OE-62 was identified during interviews conducted during the PA/SI phase of the Fort Ord ASR (USAEDH, 1997). The area (T) was identified as being used for training from 1948 to 1950 (Plate 62-1). Area T included Site OE-62 as well as adjacent Site OE-63. Ordnance reportedly used included small arms ammunition and flares. No sampling of Site OE-62 has occurred, however, surveying of site boundaries and possible brush clearance activities were conducted by UXB International (*UXB*, 1995). A site walk was conducted in 1996 by the USACE Unexploded Ordnance (UXO) Safety Specialist. The visit of Site OE-62 involved walking a portion of the site and sweeping the path walked with a Schonstedt Model GA-52/Cx magnetometer. No evidence was found to support the use of the area as an impact area (e.g., fragmentation, fuzes or projectiles). Only expended blank small arms ammunition and expended pyrotechnic items were found. On the basis of the reconnaissance performed, the ASR recommended no further OE-related investigation was necessary at Site OE-62 (*USAEDH*, 1997).

2001 Basewide Range Assessment

Site OE-62 was investigated as part of a basewide range assessment (BRA) for small arms and multi-use ranges currently being conducted at Fort Ord. The assessment of Site OE-62 for potential hazardous and toxic waste related contamination included a data review, site reconnaissance, and mapping of the site. For the BRA the areas of investigation were identified as Historical Areas (HA). Site OE-62 was identified as HA-192. Prior to conducting the site reconnaissance, a review of historical maps and aerial photographs was conducted. Areas of interest (e.g., training area boundaries, disturbed vegetation areas, and roads) were identified from maps and photographs and their locations (way points) loaded into a Global Positioning System (GPS) unit. The site reconnaissance was conducted by a two-person team that included an OE specialist and a second team member trained in OE recognition. The site reconnaissance included walking portions of the site and navigating to the way points using the GPS unit. Only expended blank small arms ammunition was found during the site reconnaissance conducted at HA-192

(Site OE-62). No evidence that the site was used for the firing of weapons other than small arms using blank ammunition was observed. An open pit was observed on the west side of Site OE-62 (Plate 62-3). No OE items were found in the vicinity of the pit.

2003 Site Walk

A site walk was conducted at Site OE-62 on October 23, 2003. The site walk location was selected to fill gaps in reconnaissance efforts conducted previously at this site. The site walk consisted of walking a portion of the site and visually inspecting the path and area immediately surrounding it for evidence of OE. The path walked was recorded using a GPS unit. No ordnance related items or evidence of the use of OE were found during the site walk performed at Site OE-62. Expended blank small arms ammunition was observed. A description of the site walk is provided in an attachment to Appendix C of this report.

3.62.5 Conceptual Site Model

Conceptual site models (CSMs) are generally developed during the preliminary site characterization phase of work to provide a basis for the sampling design and identification of potential release (functioning of the OE item; e.g., detonation) and exposure routes. CSMs usually incorporate information regarding the physical features and limits of the area of concern (the site), nature and source of the contamination (in this case OE), and exposure routes (potential scenarios that may result in contact with OE).

The CSM for Site OE-62 is based on currently available site-specific and general information including literature reviews, sampling results, aerial photographs, maps, technical manuals, field observations, and the information shown on Plate 62-3. It is provided to help evaluate the adequacy of the investigation completed to date and to identify potential release and exposure pathways.

3.62.5.1 Training Practices

Training practices are discussed below to provide information on the types of OE that may have been used at the site and the possible location of OE potentially remaining at the site.

Bivouac Area

Bivouac areas at Fort Ord were used for overnight training and field exercise (*Army*, 1980). Twenty-six bivouac areas had been established by 1980 and are documented in Fort Ord Range Regulation 350-5 (Army, 1980). According to Fort Ord regulations in place during the time Site OE-62 was active, use of bivouac areas was closely monitored. The storage of ammunition was not allowed within 100 feet of a bivouac area. Normally, only blank cartridges, simulators, pyrotechnics, and smoke items were allowed to be stored near bivouac areas. However, field storage of sensitive items, demolition materials, and small arms ammunition (other than blank) were permitted if clearance was obtained from the division ammunition officer (*Army*, 1980). Ammunition holding areas were to be individually fenced with triple concertina wire or comparable fencing. Depending on the quantity of ammunition stored, an armed guard may have been required to maintain access control. According to Fort Ord Regulation 350-5 "Strict accountability will be maintained so that items cannot be buried or discarded to avoid returning unspent ammunition." To discourage the burial or discarding of unspent ammunition, ammunition was inventoried when checked out from the Ammo Supply Point (ASP), daily while stored in the field, and again upon turn in of the unused ammunition at the ASP.

Fort Ord range regulations required that units be checked into and out of all bivouac areas. Joint inspections of the bivouac areas were conducted by the unit representative and a representative of Range

Control prior to releasing the bivouac area from unit responsibility. All tactical digging or holes were to be filled in and all wire removed. All garbage (wet or dry) was to be hauled to the sanitary landfill for disposal or placed within dumpsters in the Main Garrison if the landfill was closed.

Although it is unlikely (for the reasons stated above) that unspent ammunition authorized for use in the bivouac areas would have been buried at Site OE-62, the possibility that burial did occur does exist. If the burial of spent ammunition occurred at Site OE-62, these items would not present a hazard if encountered.

3.62.5.2 Site Features

This site is located in the south central portion of Fort Ord south of the Laguna Seca Raceway and bordered by Highway 68 on the south. The site includes rolling hills, dominated by grassland, and some oak woodland. No site-specific features are visible on aerial photographs or identified on training maps. Based on historical information, this area was used as a bivouac area and for general training and maneuvers from the 1940s until base closure.

A Noise Buffer Zone was established on the southeast side of Fort Ord by January 1978. The southern half of Site OE-62 is included in the buffer zone. Within the buffer zone "No firing of Blank Ammo: Pyrotechnics, Explosives or simulators" was allowed. Site OE-62 continued to be used for engineering training through November 1987.

3.62.5.3 Potential Sources and Location of OE

Based on review of site data, the types of OE that might be expected at this site include pyrotechnic items (signals). Because signals by design are non-penetrating they would be expected to be present at or near the ground surface. No evidence of an impact area at Site OE-62 was found during the historical review or reconnaissance.

3.62.5.4 Potential Exposure Routes

This site is within land that will be transferred to Monterey County and its future use includes development. The site is located immediately south of the Laguna Seca Raceway, west of land transferred to the Bureau of Land Management (BLM), and north of Highway 68. Laguna Seca is open to the public several times a year and the BLM property is open to the public daily for hiking, biking, and horseback riding. Because expended pyrotechnics (OE scrap) were found during site reconnaissance the possibility exists that a recreational user could come into contact with surface OE such as illumination signals. The results of the literature review do not indicate that penetrating OE would be present at this site. In addition, no evidence of fragmentation, fuzes, or projectiles were observed during two site reconnaissances conducted at Site OE-62.

Although no OE items were found at Site OE-62 a brief discussion of the potential injuries that could result from contact with live illumination signals is provided below. This item was selected for discussion, because a scrap M125 Series illumination signal was found during site reconnaissance.

For each of the OE items potentially remaining at the site, the following discussions provide information on: (1) how the item was designed to function, (2) the likelihood the item would function if found onsite and handled, and (3) the type of injury the item could cause if it functions. Additional information on these items is provided in Attachment 27Y-A2.

Signals, Illumination, Ground, Clusters: Green Star, M125A1; Red Star, M158; White Star, M159.

These signals were designed for daytime and nighttime signaling. Star cluster signals consist of 5-star illuminant assemblies and a rocket motor propulsion assembly combined in a hand-held aluminum launching tube. The base of the launching tube contains a primer and an initiating charge. As shipped, the firing pin cap is assembled to the forward end and must be reversed for firing. Stabilizing fins on the tail assembly of the rocket are folded parallel to the axis of the signal. A bolt, which also transfers the initiating charge flash to the propellant, extends into the center of the solid propellant, which fills the propulsion assembly. The illuminant assembly is mounted on top of the propulsion assembly with a delay assembly and an expelling charge between. It was functioned by striking the primer with the firing pin, which ignites the initiating charge to ignite the rocket propellant. As the rocket emerges from the tube, the fins unfold for flight stability. Before rocket motor burnout, at 200 feet, the black powder expelling charge is ignited performing a two-fold purpose of expelling and igniting the 5-star illuminant assemblies. Burn time is 6 to 10 seconds with burnout occurring at 250 to 300 feet above the ground (*Army*, 1977). It is unlikely that incidental contact could cause a signal to function as the cap must be removed, placed over the base, and struck sharply. If caused to function, the type of injury that could be sustained would be burns from the initiating charge and possibly the rocket motor.

<u>Summary:</u> It is unlikely that a person could cause a signal to function through casual contact if one were found at the site and be burned, because it: (1) would require precise placement of components and a hard blow to function, and (2) would have been exposed to moisture, degradation, and weathering for 25 or more years, which could decrease the effectiveness of the components that cause it to function.

3.62.6 Site Evaluation

The available data (e.g., archival and reconnaissance data) regarding Site OE-62 were reviewed and evaluated according to procedures described in the *Final Plan for Evaluation of Previous Work* (*HLA*, 2000). The evaluation process is documented through the completion of a series of checklists. Copies of the checklist are provided as Attachment 62-A. This section presents a summary of the results of the checklist evaluation. It is divided into two sections, an assessment of the literature review and an assessment of the reconnaissance performed at the site.

3.62.6.1 Literature Review

Type of Training and OE Expected

As part of the Archives Search, an interview was conducted with Mr. Fred Stephani. Mr. Stephani served as a Fort Ord fire fighter from 1942 to 1944 at which time he left the Fort Ord fire department and joined the Army. Mr. Stephani returned to the Fort Ord fire department in 1947 where he worked until he retired as Fire Chief in 1978. Mr. Stephani stated that this area was used from 1948 to 1950 (*USAEDH*, 1997). According to Mr. Stephani, training activities included the use of small arms and flares. Several training and field maneuver activities were identified on Fort Ord historic facilities maps including survey, reconnaissance, bivouac, and engineer training. The expected OE associated with these activities includes pyrotechnics.

A Noise Buffer Zone was established on the southeastern side of Fort Ord by January 1978. No firing of ammunition was allowed including pyrotechnics, explosives, or simulators in the Noise Buffer Zone. The southern half of Site OE-62 is included in the Noise Buffer Zone from training maps dating January 1978 to November 1987.

Subsequent Use of the Area

Based on review of historical data this area appears to have been used for general training and maneuvers throughout the base history. This site remains undeveloped; therefore, no evidence as to potential OE use can be ascertained on the basis of subsequent use of the area.

Establishment of Site Boundaries

A general area of use (area T) was created from an interview conducted by the USACE with Mr. Stephani. The location identified by Mr. Stephani was a general area of potential activities and was not surveyed or based on specific knowledge of training procedures. Following the interview USACE personnel, including the UXO Safety Specialist, evaluated the area boundary using the interview notes, site walk information, Fort Ord training maps, and aerial photographs. Based on the follow-up evaluation, the Site OE-62 boundary was established as part of the Archives Search. The Site OE-62 boundary, as established in the ASR, roughly corresponds with the future Laguna Seca Park parcel boundary. No additional information was found as the result of the literature review to warrant changes to the current boundary of Site OE-62.

Summary of Literature Review Analysis

A review of Fort Ord specific documentation, including training facilities maps and plans, aerial photographs, and the ASR indicates that this area has been used for various training activities including a bivouac area, surveying, reconnaissance, and engineering training. Interviews conducted as part of the ASR indicated that "small arms and flares" were used in this area. A site walk conducted as part of the Archives Search found no evidence to support the use of Site OE-62 as an impact area. Only expended blank small arms ammunition and expended pyrotechnic items were found. On the basis of the literature review no further OE-related investigation is warranted.

3.62.6.2 Preliminary Assessment/Reconnaissance Review

This section describes the items that were found during reconnaissance site investigations and the types of fillers that would be used in the items and the implications for the site history. Three site reconnaissances have been conducted at Site OE-62. The first site walk was conducted in 1996 by the USACE UXO Safety Specialist. The object of the reconnaissance was to determine whether sites identified during the PA/SI conducted as part of the ASR required further action. The second reconnaissance was conducted in 2001 as part of the Fort Ord BRA. Site OE-62 was identified as an area historically used for the firing of small arms ammunition and flares. The site reconnaissance was conducted to determine whether sampling for residual lead associated with small arms use was warranted. The third reconnaissance, conducted in October 2003, was performed to fill gaps in reconnaissance efforts conducted previously at this site.

Reconnaissance Methods Discussion

The site reconnaissance conducted in 1996 was completed as part of the PA/SI phase of the ASR for known and suspected OE sites at the former Fort Ord. Several areas of potential ordnance use were identified based on information gathered during interviews conducted as part of the ASR. Site OE-62 was identified in those interviews as a training area used from 1948 to 1950. Small arms and flares were reportedly used. The USACE UXO Safety Specialist walked a portion of the site visually searching the path walked while simultaneously searching for subsurface OE using a magnetometer. The area walked was in the Site OE-62 boundaries (Plate 62-3). Expended blank small arms ammunition and expended pyrotechnics were found. No evidence of fragmentation, fuzes or projectiles was observed. No evidence

of other types of training or use as an impact area was identified as a result of reconnaissance. The model numbers of the expended pyrotechnics found by the USACE UXO Safety Specialist are not identified. The USACE UXO Safety Specialist assigned a Risk Assessment Code (RAC) score of 5 for the site, which indicates that no further OE-related investigation is necessary. The recommendation of no further OE-related investigation was reviewed by the Ordnance and Explosives Mandatory Center of Expertise (MCX) and Design Center (Army Corps of Engineers Huntsville Division [CEHND]). The CEHND reviewed the recommendation and agreed that no further OE-related investigation was necessary at Site OE-62 (USAEDH, 1997).

The Fort Ord BRA reconnaissance of HA-192 was conducted in 2001. The site reconnaissance was conducted by a two-person team that included an OE specialist and a second member trained in OE recognition. Prior to conducting the site reconnaissance, historical features were identified from training maps and aerial photographs and their locations entered into a GPS unit (way points). The team then conducted the site visit using a magnetometer to detect OE as they navigated to the way points. The path of the site walk was recorded digitally with a GPS unit. The following features or items were required to be mapped if present based on a visual search of the site as part of the BRA reconnaissance: 1) targets; 2) firing lines; 3) range fan markers; 4) survey bench marks; 5) areas of stained soil that could indicate petroleum hydrocarbon or bulk explosives contamination; 6) OE or OE scrap; 7) potential sample locations based on, a) the presence of spent ammunition (lead) (accumulations of 1 to 10 percent and areas exceeding 10 percent), or b) accumulations of OE or OE scrap; 8) other training related features (e.g., fighting positions, fox holes, etc.); and 9) areas of thick vegetation that could limit access to the investigation area. Other than expended blank small arms ammunition casings and a small open pit observed on the west side of the site, no evidence of training was observed at HA-192 (Site OE-62) (Plate 62-3). Based on the absence of features including targets, range markers, and OE scrap, and the presence of only spent blank small arms ammunition casings, no further investigation for chemical contamination was recommended for HA-192 (Site OE-62) under the Fort Ord BRA.

The most recent site reconnaissance involved walking a portion of the site and performing a visual survey of the path walked as well as the area immediately surrounding the path. The team also carried a GPS unit to record the path of the reconnaissance. No ordnance related items or evidence of the use of OE were found during the site walk performed at Site OE-62 Expended blank small arms ammunition was observed. A summary of the results of the most recent reconnaissance effort is provided in an attachment to Appendix C of this report.

Site Boundaries Review

According to the ASR, a general area of concern was identified during interviews with Mr. Stephani. The area identified (Area T) is larger than the Site OE-62 boundary and encompasses both Sites OE-62 and OE-63 (approximately 5000 feet east). Site OE-62 appears to correspond to the Laguna Seca Park reuse parcel. A review of records compiled from the site reconnaissance performed within Area T indicates that each reconnaissance was conducted within the boundary of Site OE-62. No evidence of specific training locations were identified during either the ASR or BRA site reconnaissance, and no modification to the Site OE-62 boundary is necessary based on the review of the ASR or BRA site reconnaissance data.

Quality Assurance/Quality Control

The site reconnaissance, conducted as part of the ASR, was performed in accordance with USACE guidance (*USACE*, 1995). The site reconnaissance is conducted to look for evidence of past ordnance use. Visible evidence found during the site reconnaissance provides information on the type, extent, and magnitude of ordnance present. Physical features that may be present at a former site include impact

craters caused by penetrating ordnance, the presence of OE and/or OE scrap on the ground surface, and soil staining associated with the use of bulk explosives.

Upon completion of the reconnaissance at each site, a Risk Assessment Code (RAC) worksheet was completed and submitted to the Mandatory Center of Expertise (MCX) and Design Center (CEHND) as required (USACE, 1995). Although the Fort Ord BRA is not a part of the OE program, many of the Data Quality Objectives (DQOs) identified for the Site Assessment Phase of the BRA investigation are the same DQOs established for the site reconnaissance phase of the current OE site investigation program being implemented at the former Fort Ord (Parsons, 2001). The DOOs for the BRA and the OE investigation program identify similar inputs to the decisions used to help answer questions regarding historical site use and to define the boundaries of the area of use. The DQOs for the OE investigation program site reconnaissance identify various inputs to the decision such as compilation of historical information regarding potential OE at the site (e.g., the review of interview records, field notes, aerial photographs, and historic maps). The DQOs for the BRA historical review identified similar sources of information including the review of interview records, historical maps, and aerial photographs. As part of the DQOs for a site inspection conducted for the OE investigation program, documentation of the type and location of OE and OE scrap if found is recorded. As part of the DQOs for the BRA site reconnaissance the quantity, type and location of OE and OE scrap found is also recorded. Both programs include using the results of the site inspections to determine if additional work (i.e., sampling for OE and chemicals associated with OE) is necessary. The Fort Ord BRA was conducted in accordance with the Basewide Range Assessment Work Plan (IT Corporation [IT], 2001).

For this site, the following conclusions can be made regarding the quality of the reconnaissance data:

- The site reconnaissance conducted at Site OE-62 for the ASR was conducted in accordance with USACE guidance
- The data collected and observations made by the UXO Safety Specialist are useful because only OE scrap (expended pyrotechnics) were found. The OE scrap found is consistent with OE authorized for use in general training and maneuver areas. No evidence of high explosive of penetrating OE was observed and that no further OE-related investigation recommended.
- The BRA work conducted at Site OE-62 met the DQOs established for that program. Many of the DQOs from the BRA are the same DQOs that are currently in use for the OE investigation program
- The data collected and observations made by the BRA and site walk teams conducting the reconnaissance at Site OE-62 are useful because no OE or OE scrap was found which further supports the conclusion that no further OE-related investigation is necessary at Site OE-62.

3.62.7 Conclusions and Recommendations

This section presents conclusions and recommendations for this site based on the review and analysis of data associated with the review of historical information and data gathered during site reconnaissance.

3.62.7.1 Conclusions

Site Use and Development

• On the basis of a review of training maps, aerial photographs, and conducting site reconnaissance, Site OE-62 appears to have been used as a troop training and maneuver area from the late 1940s through the 1980s. Site reconnaissance conducted at Site OE-62 identified the presence of expended

blank small arms ammunition and expended pyrotechnic items. No evidence to support the use of high explosives projectiles or other ordnance was found at this site.

• This site is categorized as a development parcel. To date, no development has occurred within Site OE-62.

Reconnaissance Evaluation

- To date, no intrusive sampling for the presence of OE has been conducted at this site. Based on a literature review and on the results of site reconnaissance, no sampling is necessary.
- The data collected during the site reconnaissances conducted within Site OE-62 support the conclusion that training did not include the use of high explosives, Site OE-62 was not an impact area, and that the OE scrap found is consistent with use as a training and maneuver area.
- Based on historical use of the site and materials found at the site, it is unlikely OE is present at the site. However, the following OE items, if present at the site, are considered to pose an acceptable risk if encountered for the following reasons:

Signals, Illumination, Ground, Clusters: Green Star, M125A1; Red Star, M158; White Star, M159. It is unlikely that a person could cause a signal to function through casual contact if one were found at the site and be burned, because it: (1) would require precise placement of components and a hard blow to function, and (2) would have been exposed to moisture, degradation, and weathering for many years, which could decrease the effectiveness of the components that cause it to function.

- The observations made during the site walk at Site OE-62 are useful because no evidence of OE was observed, which supports the conclusion that no further OE-related investigation is necessary at this site.
- Although the site reconnaissances conducted at Site OE-62 did not include walking the entire site, the quantity and quality of the information generated is sufficient to make an informed decision regarding the site. The investigation (site reconnaissance) was sufficient to confirm the type of OE used at Site OE-62. Additionally, because the OE potentially remaining at Site OE-62 pose an acceptable risk if encountered, further effort to refine the site boundaries or conduct 100 percent sampling of the site would not add signific antly to the understanding of the site, or change the conclusions of this report.

3.62.7.2 Recommendations

Based on the review of existing data:

- It is not anticipated that OE will be found at Site OE-62, and no further OE-related investigation is recommended. However, because OE were used throughout the history of Fort Ord, the potential for OE to be present at Site OE-62 cannot be ruled out.
- This site qualifies as a Track 1, Category 3 site because it was used for training. OE items that potentially remain pose an acceptable risk based on site-specific evaluations conducted in the RI/FS.

Upon approval of the proposed remedy (no further OE-related investigation), Site OE-62 will be incorporated into the basewide OE RI/FS 5-year review schedule. The purpose of the "5-year review" is to determine whether the remedy at Site OE-62 continues to be protective of human health and the

environment. The 5-year review will also document any newly identified site-related data or issues identified during the review, and will identify recommendations to address them as appropriate.

3.62.8 References

Arthur D. Little, Inc. (ADL), 1994. *Final Community Environmental Response Facilitation Act (CERFA) Report, Fort Ord Monterey, California*. Real Estate Fort Ord (Military Reservation). April.

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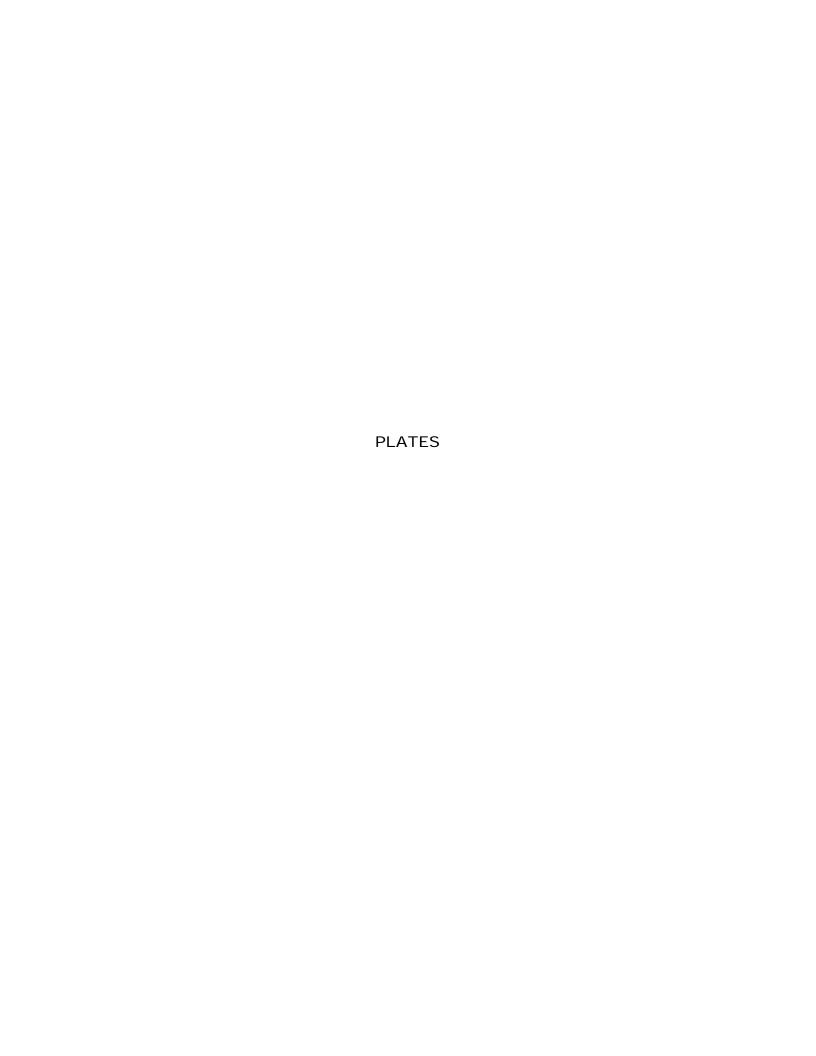
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Disclaimer

The following plates have been prepared to present pertinent features digitized from historical training maps and scanned aerial photographs. It should be noted that minor discrepancies between source maps, combined with the natural degradation of older source maps and photographs, has resulted in misalignment of some map features. In addition, camera angle and lens distortion introduced into older aerial photographs, combined with changes in vegetation and site features over time may contribute to misalignments of some map features with respect to the aerial photographs.



Yes No Inconclusive

TYPE OF TRAINING AND OE EXPECTED

1. Is there evidence that the site was used as an impact area (i.e., fired OE such as mortars, projectiles, rifle grenades or other launched ordnance)?

Sources reviewed and comments

Interview with Fred Stephani identified an Area T that includes both Site OE-62 and Site OE-63 (Stephani Interview Map). He said that the area was used from 1948 to 1950 and included the use of small arms and flares. The Archives Search Report (ASR) states that the area was identified during interviews with Fred Stephani and training activities included the use of small arms and flares. The Circa 1954 and 1956 training maps show the Laguna Seca Training Area 1, 2, and 3, approximately 100 feet to the west of the Site OE-62 boundary. The Circa 1954 training map shows an artillery firing point located approximately 1000 feet north of the site boundary. The first indication of a training area within this site on Fort Ord maps is identified as a Survey Training Area shown on the December 20, 1956 map. The CTM Biv (Bivouac) area is shown within Site OE-62 on the 1958 map. The CTM Objective is located to the northeast outside of the site boundary. The Survey Training Area is no longer present on the 1958 map. RWO 4 is located within

the OE-62 boundary on the April 27, 1964 map. An Engineer Training Area is shown on a, Ranges and Training Area Overlay (February 1, 1976). A noise buffer zone was established on the southeast side of Fort Ord by July 1976. The southern half of Site OE-62 is included in the buffer zone. Within the buffer zone " (No firing of Blank Ammo: pyrotechnics, Explosives or simulators) was allowed. Site OE-62 continued to be used for engineering training through November 1987. Brush clearance of Laguna Seca Open Spaces was performed by UXB. Unknown if anything was found (UXB, 1995).

	Yes	No	Inconclusive
2. Is there historical evidence that training involved use of High Explosive (HE) or Low Explosive (LE) items?	Yes		
Sources reviewed and comments Small arms and flares. RAC sheet for T, Site OE-62 & OE- 63, Revised Archives Search Report (ASR), USAEDH 1997; Review of Fort Ord facilities and training maps.			
3. Is there historical evidence that training involved use of pyrotechnic and/or smoke producing items (e.g., simulators, flares, smoke grenades) but not explosives?	Yes		
Sources reviewed and comments Expended small arms blanks and expended pyrotechnic items found during reconnaissance. (Fred Stephani interview, RAC sheet for T, Site OE-62 & OE-63, Revised Archives Search Report (ASR), USAEDH 1997; Review of Fort Ord facilities and training maps).			
DEVELOPMENT AND USE OF THE SURROUNDING AREA			
4. Does subsequent development or use of the area indicate that OE would have been used at the site?			Inconclusive
Sources reviewed and comments No development has occurred.			
5. Does use of area surrounding the site indicate that OE would have been used at the site?		No	
Sources reviewed and comments Laguna Seca Training Area is to the west on the Circa 1954 map, Laguna Seca Training Area and Survey Training Area to the west on the December 20, 1956 map. Two "RSOP" areas are to the north (12/20/56). No defined training areas after that time.			

	Yes	No	Inconclusive
ESTABLISHMENT OF SITE BOUNDARIES			
6. Is there evidence of training areas on <u>aerial</u> <u>photographs</u> that could be used to establish		No	
Sources reviewed and comments No clear indication of a defined training area. No structures or permanent features (3/13/69; 12/17/75; 6/16/78; 3/25/86; 11/4/88).			
7. Is there evidence of training on <u>historical training</u> <u>maps</u> that could be used to establish boundaries?		No	
Sources reviewed and comments According to the ASR the area was identified during interviews with Mr. Fred Stephani. The boundary shown on the Fred Map (Area T) is larger than the boundary in the ASR. An area "S" is delineated on the April 27, 1964 map. Area S is identified on this map as belonging to 1st Brigade. The boundary of area S is similar (slightly larger) to the Site OE-62 boundary. Couple of locations present within the delineated site boundary neither of which could be used to define the Site OE-62 boundary. "CTM Biv" Bivouac area from Training Facilities, June 1961 and RWO 4 from the Field Training Areas and Range Map, April 27, 1964. RWO 4 lies within area "S".			
8. Should current boundaries be revised?		No	
Sources reviewed and comments			

No reason to expand the site boundary. Seems that this area was probably used in a similar fashion as the rest of the eastern and southern potions of Fort Ord (e.g., training/maneuver/exercise area using pyrotechnics and blank small arms).

RESULTS OF LITERATURE EVALUATION

Does the literature review provide sufficient evidence to warrant further investigation?

Yes No Inconclusive

Comments

No sampling or further OE-related investigation is recommended based on the literature review.

References

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UXB International Inc., 1995. Final Report for Ordnance and Explosives Removal Action, Combined Non-Intrusive Areas, Fort Ord, California. November 1.

Fred Map, generated from a 1995 interview with former Fort Ord Fire Chief Fred Stephani.

Field training Areas and range Map, April 27, 1964 (HR lit0007) LR07.

Ranges and Training Area Overlay, November 15, 1987, LR28.

Training Areas That Cannot Be Used at The Same Time, Circa 1954. (HR 00035) LR03.

Fort Ord Training Areas and Facilities, December 20, 1956. LR08

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	Yes	No	Inconclusive
1. Is there evidence that the site was used as an impact area (i.e., fired OE such as mortars, projectiles, rifle grenades or other launched ordnance)		No	
Sources reviewed and comments Based on the RAC sheet, the site reconnaissance conducted under the Basewide Range Assessment, and the 2003 Site Walk.			
2. Is there evidence that training involved use of High Explosive (HE) or Low Explosive (LE) items?	Yes		
Sources reviewed and comments Expended small arms blank ammunition (RAC Sheet for Site T).			
3. Is there evidence that training involved use of pyrotechnic and/or smoke producing items (e.g., simulators, flares, smoke grenades) but not explosives?	Yes		
Sources reviewed and comments RAC sheet notes expended pyrotechnic items.			
4. Does subsequent development or use of the area indicate potential that OE would have been used at the site?			Inconclusive
Sources reviewed and comments No development of this area has occurred.			
5. Does use of area surrounding the site indicate that OE would have been used at the site?		No	
Sources reviewed and comments Laguna Seca Training Area is to the west on the circa 1954 map, Laguna Seca Training Area and Survey Training Area to the west on the December 20, 1956, map. Two "RSOP" areas to the north (12/20/56). No defined training areas after			

that time.

	Yes	No	Inconclusive
6. Is there evidence of training areas on <u>aerial</u> <u>photographs</u> that could be used to establish site boundaries?		No	
Sources reviewed and comments No clear indication of a defined training area. No structures or permanent features (3/13/69; 12/17/75; 6/16/78; 3/25/86; 11/4/88).			
7. Is there evidence of training on <u>historical training</u> <u>maps</u> that could be used to establish boundaries?		No	
Sources reviewed and comments According to the ASR the area was identified during interviews with Mr. Fred Stephani. The boundary shown on the Fred Map is larger than the boundary in the ASR. An area "S" is delineated on the April 27, 1964, map. Area S is identified on this map as belonging to 1st Brigade. The boundary of area S is similar to the Site OE-62 boundary (slightly larger). Couple of locations present within the delineated site boundary neither of which could be used to define the Site OE-62 boundary. "CTM Biv" Bivouac area from Training Facilities, June 1961 and RWO 4 from the Field Training Areas and Range Map, April 27, 1964. RWO 4 lies within area "S".			
8. Was sampling and/or reconnaissance performed within appropriate area?	Yes		
Sources reviewed and comments No sampling conducted. Reconnaissance maps indicate that each reconnaissance took place within the boundaries of the site (RAC sheet for Site T, OE-62 & OE-63, site recon conducted for Basewide Range Assessment and 2003 Site Walk).			
9. Does reconnaissance indicate OE and/or ordnance- related scrap are present at the site?	Yes		
Courses residented and comments			

Sources reviewed and comments

Expended small arms blanks and expended pyrotechnics reportedly found (RAC sheet for Site T, OE-62 & OE-63 and site recon conducted for Basewide Range Assessment).

	Yes	No	Inconclusive
10. Were the type(s) of items found consistent with the type of training identified for the site?	Yes		
Sources reviewed and comments No specific type of training has been identified for this site. The items reportedly found here are consistent with the type of items found in other training/exercise/maneuver areas.			
11. Were the type(s) of items found consistent with the era(s) in which training was identified?			Inconclusive
Sources reviewed and comments No identification of the type of expended items was presented; therefore this cannot be determined.			
12. Was HE fragmentation found?		No	
Sources reviewed and comments RAC sheet for Site T, OE-62 & OE-63 and site recon conducted for Basewide Range Assessment and 2003 Site Walk.			
13. Was HE found?		No	
Sources reviewed and comments RAC sheet for Site T, OE-62 & OE-63 and site recon conducted for Basewide Range Assessment and 2003 Site Walk.			
14. Was LE found?		No	
Sources reviewed and comments RAC sheet for Site T, OE-62 & OE-63 and site recon conducted for Basewide Range Assessment and 2003 Site Walk.			
15.Were pyrotechnics found?		No	
Sources reviewed and comments Only expended pyrotechnics reportedly found (RAC sheet for Site T, OE-62 & OE-63 and site recon conducted for			

Basewide Range Assessment).

	Yes	No	Inconclusive
16. Were smoke producing items found?		No	
Sources reviewed and comments RAC sheet for Site T, OE-62 & OE-63 and site recon conducted for Basewide Range Assessment and 2003 Site Walk.			
17. Were explosive items found (e.g. rocket motors with explosive components, fuzes with explosive components)?		No	
Sources reviewed and comments RAC sheet for Site T, OE-62 & OE-63 and site recon conducted for Basewide Range Assessment and 2003 Site Walk.			
18. Do items found in the area indicate training would have included use of training items with energetic components?	Yes		
Sources reviewed and comments Expended pyrotechnics and expended blank small arms ammunition found.			
19. Were items found in a localized area (possibly the remnants of a cleanup action)?		No	
Sources reviewed and comments Specific locations not identified. No discussion of the items being relocated or found together.			
20. Is it appropriate to divide the site into sectors to focus on areas of common usage, similar topography and vegetation, and/or unique site features?		No	

Sources reviewed and comments

	Yes	No	Inconclusive
21. Should site boundaries be revised?		No	
Sources reviewed and comments Not sure what the boundary is based on unless it is Area "S" from the 1964 map. However, the boundary drawn on the "Stephani Interview Map" covers a larger area than Area "S". No information to suggest that the boundary should be revised.			
22. Has the field data been collected and managed in accordance with quality control standards established for the project?	Yes		
Sources reviewed and comments Data collected for the Basewide Range Assessment (BRA) were managed in accordance the DQOs established in the Basewide Range Assessment Work Plan (IT, 2001). The site reconnaissance conducted as part of the PA/SI was in performed in accordance with USACE guidance (USACE, 1995). RAC sheet documentation includes a map of the area walked and a record of what was found.			
Result of Reconnaissance Evaluation			
Does the reconnaissance evaluation provide sufficient evidence to warrant further investigation?		No	
Comments No reason to conduct further OE-related investigation based on the RAC evaluation and site recon conducted under the			

BRA.

Yes No Inconclusive

References

USAEDH, 1997. Revised Archives Search Report, Former Fort Ord, California, Monterey County, California. Prepared by U.S. Army Corps of Engineers St. Louis District. U.S. Army Corps of Engineers, 1995. Procedures For Conducting Preliminary Assessments At Potential Ordnance Response Sites. ETL 1110-1-165, April.

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